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ABSTRACT

To summarize knowledge on the effects of grouping and tracking in secondary schools, this synthesis uses ethnographic research to interpret the findings of survey analyses, and uses survey studies to assess the causal implications and degree to which ethnographic findings can be generalized. Survey studies consistently report that academic-track students are more likely to attend college and attain more schooling overall. However, no consensus exists about the effects of tracking on achievement or on student attitudes. The ethnographic literature reveals consistent track differences in students' academic experiences. High-track classes cover more complex material more quickly, exposing students to more high-status knowledge. Existing evidence does not show whether tracking actually causes polarization of students into pro- and anti-school factions, or whether this polarization results from pre-existing differences among students. Combining the survey and ethnography findings, the balance of the evidence suggests that grouping and tracking do affect achievement, despite the inconsistencies in survey analyses. A 73-item reference list is appended. (JD)

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THE EFFECTS OF STRATIFICATION IN SECONDARY SCHOOLS: SYNTHESIS OF SURVEY AND ETHNOGRAPHIC RESEARCH

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EXECUTIVE SUMMARY

THE EFFECTS OF STRATIFICATION IN SECONDARY SCHOOLS SYNTHESIS OF SURVEY AND ETHNOGRAPHIC RESEARCH

To summarize knowledge on the effects of grouping and tracking in secondary schools, this synthesis uses ethnographic research to interpret the findings of survey analyses, and uses survey studies to assess the causal implications and degree to which ethnographic findings can be generalized. Survey research is criticized for its ambiguity concerning the measurement of within-school stratification as well as for lack of attention to the mechanisms through which the effects of grouping and tracking occur. At the same time, ethnographic research is seen as limited by an inability to demonstrate the significance of between-track differences in social and instructional conditions, and by the failure to disentangle track effects from the influence of social class and other pre-existing circumstances.

Survey studies consistently report that academic-track students are more likely to attend college and attain more schooling overall. However, no consensus exists about the effects of tracking on achievement or on student attitudes, with some studies finding track differences while others do not. One problem with these studies is that the categories of stratification measured--typically student-reported academic, general, and vocational tracks--do not constitute the only lines of stratification in most high schools.

The ethnographic literature reveals consistent track differences in students' academic experiences. High-track classes cover more complex material more quickly, exposing students to more high-status knowledge. In addition, tracking is said to polarize students into pro- and anti-school factions. Existing evidence does not show whether tracking actually causes the polarization, or whether it results from pre-existing differences among students. Moreover, the observational studies do not reveal whether track differences in instruction and in attitudes are large enough to create substantial differences in student outcomes.

Combining the survey and ethnographic findings, the balance of the evidence suggests that grouping and tracking do affect achievement, despite the inconsistencies in survey analyses. Track differences appeared in nationally representative survey data for Britain and the US. Because American survey research has not addressed the complex dimensions of grouping in secondary schools, the overall effects of within-school stratification may well be larger than they appear to be in American survey analyses. Students and teachers consistently report that greater learning occurs in the high-status groups and tracks.

If achievement differences do exist, they probably result largely from variation in students' academic experiences. Survey analyses have shown that students in different curricular tracks enroll in different course sequences and report variation in instructional climates. Ethnographers have provided more detailed information on instructional differentiation, describing differences in the sorts

of knowledge available, the pace at which material is presented, and the way tasks are organized. Moreover, teachers reputed to be more skilled and successful are more often located in high-track classes. This may produce a continuing cycle of low expectations, poor morale, and failure for both teachers and students in low tracks. Whether these instructional differences are large enough to cause persistent effects on student achievement remains an untested question.

The two research approaches agree that high-track students attain more schooling. Most of this effect appears to occur through tracking's influence on educational plans at the end of high school. How these plans are formed constitutes the central question for this line of research. Possible mechanisms include the differential allocation of knowledge, the polarization of student attitudes, and differences in the symbolic values of varied track positions.

Survey work is clearly needed to uncover the causal ordering of purported track effects. Observational claims of differences in peer relations must be studied quantitatively and over time. Similarly, the link between tracking and teaching needs to be considered with longitudinal quantitative data. In addition, survey research must assess the magnitude of track differences in instruction and social relations.

Simultaneously, ethnographic research might be particularly helpful in clarifying the subjective meanings of students' track perceptions. At this point, it is not known what underlies' students' identification of their track placement or whether the categories used are meaningful in most schools. Ethnographic work is also needed for a more theoretically grounded view of instruction. What aspects of instruction are most likely to vary between tracks, what is most likely to influence achievement, and why?

The authors advocate longitudinal, quantitative research that is sensitive to the actual dimensions of stratification in schools, and to classroom conditions and processes that vary across levels of the academic hierarchy. It is clear that knowledge about the operation and outcomes of stratification in schools will accumulate more rapidly as it draws upon diverse research traditions.

THE EFFECTS OF STRATIFICATION IN SECONDARY SCHOOLS: SYNTHESIS OF SURVEY AND ETHNOGRAPHIC RESEARCH

How are students affected by the stratification of secondary schools into curricular tracks and ability groups? Much survey research suggests that grouping and tracking operate to widen the gap between high and low achievers (Alexander & McDill, 1976; Alexander, Cook, & McDill, 1978; Gamoran, 1987; Heyns, 1974). But not all survey analyses support this finding (Alexander & Cook, 1982; Jencks & Brown, 1975), and survey data provide little evidence about the mechanisms that produce tracking effects. Ethnographers, on the other hand, have consistently documented between-track differences in peer-group relations and classroom events (e.g., Ball, 1981; Hargreaves, 1967; Metz, 1978), but whether such disparities are caused by tracking or result from preexisting differences is not known. These and other dissimilar findings result from differences in the basic issues addressed as well as from the usual differences between survey and ethnographic methods of data collection and analysis.

The object of this synthesis is to use ethnographic description to interpret survey findings on tracking, and to clarify observational case-study findings that might be tested with large-sample survey data. What do we know from survey research on tracking, and what do we not know? How much overlap exists between survey and ethnographic research on grouping and tracking in secondary schools? Do the two literatures analyze the same phenomena, consider similar explanations, offer compatible conclusions? After addressing these questions, we intend to propose new research that combines the findings of both techniques.

A Survey of Survey Research

Part of the impetus for survey research on tracking was not to understand the effects of track assignment per se, but to discover a within-school source of variation in student achievement (Alexander & McDill, 1976; Gamoran, 1987; Hauser, Sewell, & Alwin, 1976; Jencks & Brown, 1975). This effort came in response to the findings of the Coleman report (Coleman et al., 1966) and others (for a review see Averch et al., 1972) that variation between schools had relatively little to do with individual achievement outcomes. Because achievement varies within schools more than between them, it made sense to consider aspects of students' experiences that differ within schools. Assignment to varied curricular tracks was one reason some students might achieve more than others in the same school (Note 1).

Alexander and McDill (1976) found that membership in an academic or college-preparatory program was associated with higher achievement. They

included controls for ability but not for achievement in the area measured by the post-test, acknowledging that the absence of such baseline data prevented them from ruling out selection as the source of apparent tracking effects (1976, Note 2). In fact, using more stringent controls for prior ability in the Project Talent data, Jencks and Brown (1975) found little or no effects of tracking on achievement. And when Alexander and Cook (1982) introduced controls for ninth grade achievement, the effects of track position on twelfth grade achievement dropped substantially.

However, in a recent analysis of data from High School and Beyond (HSB), Gamoran (1987) found that placement in an academic track gave students significant achievement advantages in math, science, reading, vocabulary, writing, and civics. Gamoran's analyses included controls for prior achievement in basic skills and also for prior performance on the tests used as outcome measures. (For similar findings with another HSB analysis, see also Vanfossen, Jones, & Spade, 1987.) Moreover, when Kerckhoff (1986) used controls for prior test scores in an analysis of British survey data, he still discovered substantial differences in math and reading achievement between ability group levels. Apparently the inconsistent results for track effects on achievement cannot be attributed to the insufficient controls for prior achievement in earlier studies.

There is more consensus regarding the effects of track placement on post-high school expectations and attainment. Students in an academic track are more likely to expect to continue to college (Alexander et al., 1976, 1978, 1982; Heyns, 1974; Rehberg & Rosenthal, 1978; Rosenbaum, 1980b; Vanfossen, Jones, & Spade, 1987; Waitrowski et al., 1982). Moreover, academic track membership increases one's likelihood of actually attending college (Alexander & Eckland, 1974, 1975; Hauser, Sewell, & Alwin, 1976; Hotchkiss & Dorsten, 1987; Jencks & Brown, 1975; Rehberg & Rosenthal, 1978; Rosenbaum, 1980b), and it contributes to overall educational attainment measured seven years after high school graduation (Velez, 1985; Wolfle, 1985). By including controls for grades (Rosenbaum, 1980b), twelfth grade achievement (Jencks & Brown, 1975), or both (Hotchkiss & Dorsten, 1987; Wolfle, 1985), researchers have demonstrated that college-track students are likely to attain more schooling than students in other tracks with otherwise equivalent high school performance records.

Although some cross-sectional studies suggest that academic-track students have more positive attitudes toward themselves, their schoolwork, and their schools (Kelly, 1975, 1976; Oakes, 1985; Schafer & Olexa, 1971; Schafer & Polk, 1972), longitudinal analysis has not revealed a consistent causal relation between tracking and attitudes. Using the Youth in Transition data, Waitrowski et al. (1982) found no effects of tracking on self-esteem, positive attachment to school, or delinquent behavior. Alexander and McDill (1976) found an association between curriculum and academic self-image, but had no controls for self-image prior to tracking. Most recently, though, Vanfossen, Jones, and Spade (1987) reported a small positive effect of the academic track position on self-esteem, controlling for self-esteem two years earlier.

Assessing the Findings of Survey Research

We have now considered ten American data sets used in sixteen studies:

a) Educational Testing Service (ETS) data collected from high school sophomores in 1955 and followed up in 1970 (Alexander & Eckland, 1974, 1975);
b) the "Wisconsin" data, whose respondents also were graduated from high school in 1957 (Hauser, Sewell, & Alwin, 1976);
c) Project Talent, from 1960 (Jencks & Brown, 1975);
d) the Equality of Educational Opportunity Survey (EEOS), conducted in 1964-65 (Heyns, 1974);
e) data on twenty high schools gathered by Johns Hopkins University researchers in the same years (Alexander & McDill, 1976);
f) another ETS data set, this one from the 1960s (Alexander & Cook, 1982; Alexander, Cook, & McDill, 1978);
g) the Youth in Transition data, collected from 1966-1970 (Waitrowski et al., 1982);
h) the "Broome County" data, from central New York State, collected between 1967-1971 (Rehberg & Rosenthal, 1978);
i) the National Longitudinal Survey (NLS) conducted between 1972-1979 (Rosenbaum, 1980b; Velez, 1985; Wolfle, 1985); and
j) HSB, with data from 1980-1984 (Gamoran, 1987; Hotchkiss & Dorsten, 1987; Vanfossen, Jones, & Spade, 1987). The models formulated have been similar across studies: Tracking is viewed as an intervening variable mediating the effects of background variables on outcomes while exerting its own direct effect on outcomes. The chief differences among these studies are the use of varied dependent variables, and the stringency of controls used to rule out biased estimates of track effects due to unmeasured selection processes. Although the data cover a period spanning twenty-nine years, no time trends are apparent.

We have also noted one set of British survey data (Kerckhoff, 1986). The most salient difference between this and the American studies may be the examination of multi-dimensional ability hierarchies in the British data, in contrast to the simple dichotomy or trichotomy in American work. This issue is discussed further below.

What have we learned from survey research? The most consistent finding concerns effects on subsequent educational attainment: Students in academic tracks are more likely to plan on attending college and more likely to actually enroll, even with controls for plans and achievement prior to tracking. Of the analyses of achievement differences that have used strict controls for prior achievement, the results are mixed: High-track students had an advantage in the British data (Kerckhoff, 1986) and in the HSB data (Gamoran, 1987; Vanfossen, Jones, & Spade, 1987), but in data from Project Talent and from ETS, the gap between college-track and noncollege-track students was small

after initial differences were taken into account (Alexander & Cook, 1982; Jencks & Brown, 1975). In the three American cases and in most of Kerckhoff's analyses, track differences were greater in tests of mathematical than of verbal skills (see also Alexander, Cook, & McDill, 1978). Finally, although noncognitive characteristics vary by track level, available longitudinal evidence is mixed concerning track effects on self-esteem and suggests that tracking does not foster delinquency among students in noncollege tracks (Vanfossen, Jones, & Spade, 1987; Waitrowski et al., 1982).

We also know a bit about the mechanisms that produce track effects. Gamoran (1987) found that differential coursetaking accounted for much of the difference in math and science achievement between students in academic, general, and vocational tracks, but similar mediating effects were weak in the case of reading, vocabulary, writing, and civics achievement. Alexander and Cook (1982) also looked for mediating effects of coursetaking, but although coursework affected achievement, it did not play much of an intervening role because track position had little impact on achievement.

Vanfossen, Jones, and Spade (1987) noted that academic-track students reported fewer disciplinary problems in their schools, and were more likely to describe the teachers in their school as patient, respectful, clear in their presentations and enjoying their work. The authors speculated that these "climate" differences may have contributed to track differences in achievement and other outcomes. But this hypothesis was not tested directly. Moreover, because students were asked about their schools rather than about their classes, and also because observational data were lacking, it is unclear whether the findings represent actual differences in classroom environments, or reflect differences in the perceptions of students who belong to different tracks. The reported climate differences may also result from differences between schools that vary in the proportion of students in an academic program, rather than from differences between tracks in each school. These intriguing findings need to be pursued further.

Other studies have attempted to account for track effects on educational attainment. Most of tracking's effect on college attendance can be explained by differences in college plans at the end of high school (Rosenbaum, 1980b; see also Jencks & Brown, 1975), but that is not much of an explanation; it merely reflects the fact that students who plan on attending college are likely to do so. College-track students appear to have more contact with guidance counselors and receive more encouragement to attend college from counselors, parents, and teachers (Alexander & Eckland, 1974, 1975; Hauser, Sewell, & Alwin, 1976; Heyns, 1974; Rehberg & Rosenthal, 1978). They also report having more college-bound friends (Alexander & Cook, 1982; Alexander & Eckland, 1974, 1975; Alexander & McDill, 1976; Hauser, Sewell, & Alwin, 1976; Rehberg & Rosenthal, 1978). Such contacts explain part of curriculum's effect on college plans. But most of these studies lacked controls for plans and attitudes prior to tracking. Because college plans predict as well as result from curriculum assignment (Alexander & Cook, 1982; Waitrowski et al., 1982),

analyses that fail to control for prior plans almost certainly overestimate the effect of tracking. Only two studies controlled for earlier intentions while examining intervening conditions: in one, twelfth-grade reports of high school grades, peer college plans, and counselor encouragement accounted for nearly all of tracking's effects on the decision to enter college (Rehberg & Rosenthal, 1978); in the other, college plans could not be explained by grades or counselor encouragement, but peer college intentions explained a small portion and coursework accounted for one third of the difference between tracks (Alexander & Cook, 1982).

What do we not know from these studies? One thing we might wonder is what lies behind the identification of students as members of academic or nonacademic (general or vocational) tracks. In nine of the ten American data sets, track position was measured by asking students to state their curricular program as academic or college preparatory, general, or a variety of vocational programs. The ETS 1960s data and the NLS data also contained a school staff member's report of each student's track assignment (Alexander, Cook, & McDill, 1978; Rosenbaum, 1980b; Wolfle, 1985). What do students and principals mean when they indicate track positions? Do they use the same criteria? The correlation between the two reports (principal or other staff members and students) in the NLS data was only .60 (Rosenbaum, 1980b). Is one of them incorrect? More centrally, does this question tap the key dimensions of stratification in secondary schools? Or are there other divisions that may be more salient? Hauser, Sewell, and Alwin (1976) operationalized tracking by examining records of students' coursework, designating students as college-track if they had taken courses needed for college admission. How does this method compare with the others?

Two studies claim to have captured students' academic experiences more accurately than the simple description of their programs as academic, general, or vocational. The British data used by Kerckhoff (1986) included a description of the ability group system in each school, as well as students' positions within the system. Instead of providing global descriptions of students' overall programs, school staff identified students as members of high, middle, low, or remedial groups in math and reading. As Kerckhoff argues, his data represent the actual arrangement of students more closely than most American data sets.

Hotchkiss and Dorsten (1987) took a different approach to identifying students' programs. Using student transcript data available in the American HSB data set, they created a "curriculum index" designed to reflect the extent of a student's concentration in academic coursework. The more academic credits a student had accumulated, the higher his or her score on the scale. With this index they coded students as exposed to more or less academic work, rather than as members of certain programs. While this scheme departs somewhat from the analysis of school structure, it probably reflects students' educational experiences more accurately. Both Kerckhoff's (1986) and Hotchkiss and

Dorsten's (1987) analyses revealed strong effects of within-school stratification on student outcomes.

A second topic about which too little is known concerns the mechanisms through which curriculum effects operate. Only five studies have examined intervening variables while using stringent controls for prior conditions. These have reported that (a) course enrollment may explain much of tracking's effects on math and science achievement, but not in other areas (Gamoran, 1987); (b) college plans account for most of the effects on college attendance (Jencks & Brown, 1975; Rosenbaum, 1980b), which is not saying much, as we noted above; (c) coursetaking, grades, and contacts with peers and counselors may help to explain track effects on college plans (Alexander & Cook, 1982; Rehberg & Rosenthal, 1978). The paucity of such analyses, and the gaps they leave open, call for further research on this topic. But such work requires a fuller conceptualization of the processes through which the effects of tracking are transmitted. How does tracking influence social relations in secondary schools? Addressing this question may provide direction for seeking to understand how tracking's influence occurs.

Third, it is somewhat puzzling that the effects of tracking are no greater nor more consistent than they have been found to be. Both proponents and critics of tracking suppose that it affects students' achievement and attitudes, but survey data reveal this to be inconsistent at best. Is tracking not that important after all? Are we looking at the wrong outcomes? Or is tracking measured inappropriately? Existing survey data shed little light on these issues.

Many of these questions can be illuminated by ethnographic research on secondary school tracking. Much of the ethnographic literature is British in origin (Ball, 1981; Burgess, 1983, 1984; Hargreaves, 1967; Keddie, 1971; Lacey, 1970; Measor, 1984; Player, 1984; Woods, 1984), but some has been carried out in the U.S. as well (Cottle, 1974; Finley, 1984; Metz, 1978; Oakes, 1985; Page, 1984, 1986; Powell, Farrar, & Cohen, 1985; Rosenbaum, 1976; Schwartz, 1981). Bringing the British work to bear on these problems is particularly important, for as Karabel and Halsey (1977) noted, British and American work in the sociology of education tend to proceed without recognizing one another. Of course, we will need to be sensitive to differences between British and American systems of stratification. Note that we will not cover every study of secondary school tracking that included classroom observation. We restrict our focus to studies aimed at uncovering the subjective meanings of the events and patterns of life in schools. Such research may contain quantitative data, but most of its information comes from qualitative descriptions of observations and interviews.

THE CONTRIBUTIONS OF ETHNOGRAPHIC RESEARCH

The Structure of Stratification in High Schools

In a theoretical article, Sorensen (1970) argued that school systems vary in the ways they divide students. They differ in electivity, the amount of student choice of assignment; in selectivity, the homogeneity of grouped classes; in inclusiveness, the number of options for future attainment available at a given educational level; and in scope, the extent and permanence of assignments. Schools as envisioned by most survey research, having distinct academic, general, and vocational tracks, would be low in inclusiveness and high in scope, and could vary on the other dimensions. How accurate is this characterization? Case studies that examine stratification systems in close detail can speak to this issue.

Rosenbaum (1976) described the school he studied as low in inclusiveness and electivity and high in scope and selectivity. Despite a stated policy of free choice and fluid mobility between tracks, students were started on distinct curricular paths when they entered high school. These programs essentially dictated their courses of study in all academic areas. There was little movement between tracks, and what did occur tended to be downward (i.e., out of the college track, not into it). Similarly, British research tends to depict curriculum assignments as unambiguous. In studies by Hargreaves (1967), Lacey (1970), and Ball (1981), students' secondary school "streams" (a British term for tracks) were clearly tied to subsequent educational careers. Though the streams were not termed "academic," "vocational," and "general," only the higher streams were oriented toward college entrance exams. The lower streams aimed for exams that terminate a student's career at the secondary level. Even in comprehensive schools that deemphasize streaming, clear distinctions appeared between college-examination students and noncollege-examination students (Burgess, 1983; Ford, 1969). The structure of stratification in these schools--in particular its permanence, inflexibility, and restriction of future options (high scope and low inclusiveness)--appears to be consistent with the system of distinct curricular programs as assumed by survey research.

Yet in contrast to Rosenbaum's American study and most of the British work, other American observers have documented school stratification systems that are less closely tied to the traditional labels. Following extensive visits to twenty-five middle and high schools throughout the United States, Oakes (1985) and her team of researchers (see Goodlad, 1984) discovered that the terms "academic," "general," and "vocational," did not describe the only lines of stratification in most schools (note 3). Nearly all the schools grouped students by ability for several subjects, but few had curricular programs as clearly defined as in the school studied by Rosenbaum (1976). Some were lower in scope, grouping students for fewer classes and doing so subject by subject instead of across all subjects. Some were very high in selectivity, but only in certain subject areas. Oakes, Rosenbaum, and others have pointed out that

schools that do use distinct curricular programs often group students by ability within tracks (Cicourel and Kitsuse, 1963; Schafer and Olexa, 1971). Furthermore, schools that do not use ability grouping may stratify classes by varying students' instructional starting points. For example, in one school some ninth graders may enroll in pre-algebra, others in algebra, and a third group in geometry (Delaney & Garet, 1986; see also Cicourel and Kitsuse, 1963). These divisions might not be labeled as ability groups or as college vs. noncollege programs, yet they constitute a form of stratification in schools. Finally, the growth in college attendance, the rise of specialized "magnet" schools, and between-school variation by community prosperity has meant that in many schools almost all students are college-bound (a system high in inclusiveness); nonetheless, such schools may be highly stratified.

The inconsistency between the simple structure of stratification examined in surveys and the more complex systems of many schools raises ambiguity about what prompts students or others to describe programs as academic, general, or vocational in response to the survey question. The college/noncollege distinction is not the only division in high schools, and in many schools it is not the most salient one. In general, ability grouping for specific subjects appears more common than tracking by curricular program, but ability grouping has been neglected in large-sample surveys. Even though students in high groups for one subject tend to be in high groups for others (Finley, 1984; Rosenbaum, 1976), in the absence of distinct tracks it is not clear how these students would respond to the survey question on curricular programs. Students who call their program "general" may actually be taking advanced classes (Gamoran, 1987), and students enrolled in low-ability classes sometimes consider their program to be "college-preparatory" (Rosenbaum, 1980b). There are schools at which this perception would be correct, in the sense that relatively low-level classes prepare one for college (Cookson & Persell, 1985). We cannot say that any of the commonly-used track indicators--student reports, school reports, or course records--are incorrect, or that one is more accurate than the others. Each reflects a different vision of the school's academic hierarchy, and none reveals the structure of that hierarchy unambiguously.

Later we will show that this lack of clarity raises further problems for interpreting survey results. In the sections that follow, we take up the question of what mechanisms produce effects of stratification in schools. In this discussion we will not limit ourselves to considering academic, general, and vocational tracks, but any of the various forms of grouping and tracking that are found in high schools.

The Instructional Context of Tracking

Although previous reviewers have suggested that between-track differences in instruction may cause achievement to vary by track (e.g., Persell, 1977), survey research has been nearly silent about this potentially critical process. There

is some evidence that college-track students achieve more in math and science because they take more academically-oriented courses (Gamoran, 1987; see also Alexander and Cook, 1982). But ethnographic research shows that tracking is associated with more variation in students' academic experiences than differences in the number and types of courses taken (Ball, 1981; Burgess, 1983, 1984; Finley, 1984; Hargreaves, 1967; Keddie, 1971; Lacey, 1970; Metz, 1978; Oakes, 1985; Ogbu, 1974; Page, 1984; Schwartz, 1981). Extensive ethnographic evidence points to between-track differences in instructional quality. This evidence lends credence to Vanfossen, Jones, and Spade's (1987) suggestive survey findings of student-reported track differences in teacher treatment and disciplinary climate. It is also consistent with recent suggestions that within-school variation in opportunities for learning constitutes a key predictor of variation in student achievement (Barr & Dreeben, 1977, 1983; Bidwell & Kasarda, 1980; Sorensen & Hallinan, 1977; 1986).

A. Pace and complexity of instructional tasks

Observers have noted that instruction is conceptually simplified and proceeds more slowly in lower tracks. The use of oral recitation and structured written work exposes students to fragmented concepts instead of thorough treatments of topics (Burgess, 1983; Hargreaves, 1967; Keddie, 1971; Metz, 1978; Oakes, 1985; Page, 1984; Schwartz, 1981). Instructional tasks usually involve rote memory in contrast to the more analytical, critical-thinking tasks sometimes found in the higher-track classes (Hargreaves, 1967; Oakes, 1985). Teachers may omit topics from their lessons altogether (Ball, 1981; Oakes, 1985), and they generally offer students low-status knowledge unlike the knowledge required for college entrance exams (Burgess, 1983, 1984; Keddie, 1971; Oakes, 1985).

An example of this instructional differentiation was found in the types of responses teachers gave to students' questions. According to Keddie (1971), teachers supposed that the everyday meanings of concepts were not always clear to students in low streams, and so they stressed basic, common-knowledge information in low-stream classes. High-stream students rarely asked questions about these meanings. There, teachers assumed the simple ideas were understood; consequently they presented students with broader, more complex concepts. Thus lower streams were restricted in learning while upper streams had access to more complex and more complete knowledge. Page (1984) suggested that tracking sets in motion a vicious cycle: Based on stereotypes and on past experience, teachers hold low expectations for low-track students; perceiving these views, students lower expectations for themselves, confirming and further reducing the expectations held by teachers.

By reducing the pace and complexity of classroom work, teachers believe they are gearing instruction to the ability levels of students (Rosenbaum, 1976; Wilson & Schmits, 1978). But ethnographers have suggested other reasons for simplified, slow-paced instruction. First, it may be used as a technique for controlling students' behavior. "Teachers used structured written work as a

device to quiet a class or to keep it calm" (Metz, 1978, p. 103). According to Metz, the main use of such instruction was to maintain order in the lower tracks. Second, low-track students appeared to prefer such assignments. They are less taxing, and create a sense of routine. Moreover, low-track students preferred written work because it was more private. In discussions in the higher tracks, mistakes were more visible. "Exchange and discussion with classmates which includes opinion and debate," reported Metz, "exposes even more of a student's person to public view" (1978, p. 104). The classroom atmosphere produced by these written assignments was one of "inattention, conversation, and often even movement about the room" (Metz, 1978, p. 106). In high tracks, by contrast, Metz found "a certain air of intensity... the pace of activity was brisk; teachers would discourage any quiet whispering or even silent inattention as soon as they noticed it" (1978, p. 105-106).

Slower pacing means that important parts of the curriculum may be introduced later for low-track students. Students who fall behind in subjects such as mathematics and foreign languages may have difficulty enrolling in the academic courses that qualify one for college entrance (Ball, 1981; Cicourel & Kitsuse, 1963). Low-track students evidently do not realize this potential impact on their ultimate educational attainment (Rosenbaum, 1976, 1980b).

B. Allocation of teachers

These differences in instruction are compounded by the fact that teachers are not randomly assigned to tracks and ability levels. On the contrary, ethnographic evidence suggests that more experienced teachers and those regarded as more successful are disproportionately assigned to the higher tracks (Ball, 1981; Burgess, 1983; Hargreaves, 1967; Lacey, 1970; Rosenbaum, 1976). Most teachers prefer high-track classes, reportedly because students in these tracks are oriented toward the academic goals of the school (Ball, 1981; Hargreaves, 1967; Lacey, 1970). Finley (1984) found that teachers competed against one another to obtain the advanced classes. High-track teachers struggled through informal processes to maintain a monopoly over their "jealously guarded" classes (p. 38).

Once assigned to the high tracks, teachers appear to put more time and energy into their teaching. They spend more time preparing for class (Rosenbaum, 1976), and they must be ready to respond to the more challenging questions posed by high-track students (Metz, 1978). Oakes (1985) concluded that upper-track teachers tend to be more enthusiastic, to vary their method of presentation, and to use more constructive criticism than teachers in lower-track classes. Similarly, Schwartz (1981) found that when high-track students gave incorrect answers, teachers coaxed and pushed them to develop the correct answer. Low-track students whose answers were incorrect were ignored; the teacher simply went on to ask another student.

Prolonged exposure to low-track classes is said to adversely affect teachers' competencies (Finley, 1984; Hargreaves, 1967). According to Finley, both

teachers and students become demoralized by remaining at the bottom of the school's status hierarchy. Thus, not only may low-track students receive inferior teachers compared to their high-track peers, but their teachers may worsen over time.

C. Implications

The ethnographic accounts cannot be said to represent a particular "sample," but the quantity and consistency of the findings clearly point toward a pattern of instructional differences favoring high-track classes. Given these extensive differences, why have the effects of tracking appeared weak and inconsistent in survey research, especially with achievement as the dependent variable?

We offer two responses. First, many of the instructional differences encountered in the ethnographic literature occurred at the classroom level, and did not necessarily correspond to distinctions between curricular programs (see especially Oakes, 1985). In Sorensen's (1970, 1978) terms, grouping at most case study sites was more selective (greater intended homogeneity) than could be achieved simply by dividing students into academic, general, and vocational tracks. Even if instruction varies between classes as ethnographers have shown, and even if it creates differences in outcomes as they suppose, the full strength of these effects might not appear in survey results. By focusing solely on differences between tracks, survey research may have failed to capture a significant portion of the variation in instruction, thus underestimating the overall effects of within-school stratification. After finding strong ability-group effects on math and reading achievement using more precise indicators of ability-group assignment in British schools, Kerckhoff (1986) also concluded that American surveys need to be more sensitive to the complex dimensions of stratification in schools.

This may be only a partial explanation, however, because survey track indicators are still likely to be correlated with the classroom-level divisions reported by ethnographers. For example, Gamoran (1987) found that nearly half the students who reported being in an academic program as sophomores and seniors had enrolled in honors English classes, compared with only about fifteen percent of the general- and vocational-track students. Similarly, students who reported being in the academic track took three to five times as many advanced courses in math and science as students in general and vocational programs. One would expect survey results to reflect instructional differences related to such between-track variation in coursework.

Another possible explanation for weak and inconsistent tracking effects is that although instruction varies between tracks and ability levels, the instructional differences may actually be small when compared to the overall similarity of instruction at all levels. Several recent observers have commented on the lifeless nature of high school classrooms (Boyer, 1983; Goodlad, 1984; Oakes, 1985; Powell, Farrar, & Cohen, 1985). Teachers do most of the talking, and students are expected to remain passive. Instruction is "emotionally flat"

(Goodlad, 1984). These descriptions hold for classes at all levels, not just low tracks. While arguing that instructional differences favored high-track classes, Oakes (1985) acknowledged many similarities across track levels. With regard to classroom climate, for example, she noted:

> The most significant thing we found is that generally our entire sample of classes turned out to be pretty noninvolving places. As we expected, passive activities--listening to the teachers, writing answers to questions, and taking tests--were dominant at all track levels. And, also not unexpected, the opportunities students had in any group of classes to answer open ended questions, to direct the classroom activity, or to make decisions about what happened in class were extremely limited....Any statements that can be made about differences between tracks in this respect must be seen in this context (p.129).

Other between-track differences need to be seen in relative terms as well. Table 1 summarizes the quantitative findings Oakes (1985) reported from observations of 160 classes. As Oakes argued, the findings reveal a clear pattern favoring high-track classes: a greater proportion of time is spent in instruction; students spend less time off task, more time learning, and less time being told how to behave; and teachers expect more homework time from high-track students. But how great are these differences? In most cases, the track levels appear much more alike than they are different. Of the twelve comparisons in Table 1, only one--expected homework for English--shows a sharp contrast. (Time usage differs somewhat according to teacher reports, but much less according to observers.) In the other cases, the differences appear small. No standard deviations were reported, so it is not possible to assess the statistical significance of the differences. More importantly, we do not know how these relatively small differences influence variation in achievement and other outcomes.

Table 1 about here.

Oakes also recognized that in math classes, students at all strata were expected to work at low cognitive levels, with a great deal of memorization. Similarly, the teaching of fragmented concepts and lists of facts reported for low-track classes by Hargreaves (1967), Keddie (1971), and Page (1984, 1986), has elsewhere been seen as characteristic of secondary school instruction at all levels (McNeil, 1983). As Page commented, "there are no features of lower-track classrooms--a predominance of teacher talk, use of individual worksheets, definition of the student's role as passive--that are not also found, although to a different degree, in regular-track classrooms" (1984, p. 12-13).

Table 1

Summary of some of Oakes' findings on between-track differences in instruction

	% time in instruction		% time off-task	Student reports of time spent: (scale of 1 to 3, 3=most)		Teachers' expected
	reported	observed	(observed)	on learning	on behavior	homework time
English						
High track	82%	81%	2%	2.80	1.48	42 minutes
Low track	71%	75%	4%	2.44	1.83	13 minutes
Math						
High track	77%	81%	1%	2.77	1.43	38 minutes
Low track	63%	78%	4%	2.53	1.81	27 minutes

Source: Oakes, 1985, pp. 98, 100, 101, 103..

The ethnographic literature provides little guidance for judging when between-track differences should be considered meaningful, and when they are trivial. Yet survey studies have made little attempt to incorporate classroom instruction into the design of research. Clearly work is needed that provides for a quantitative assessment of prior achievement, classroom instruction, and subsequent achievement and other outcomes. Only this type of research will allow us to evaluate the impact of the between-track differences in instruction consistently found by ethnographers. Oakes (1985) also called for this kind of research in concluding her study.

The Social Context of Tracking

Ethnographers remind us that the social context of groups and tracks helps shape the character of events that occur there. They point to patterns of association, interaction, attitudes, and perceptions as central pieces in puzzling out the nature of groups and tracks. Tracking is said to play a major role in polarizing student attitudes into pro- and anti-school camps (Ball, 1981; Hargreaves, 1967; Lacey, 1970; Schwartz, 1981). While high-track students tend to accept the school's demands as the normative definition of behavior, low-track students resist the school's rules and may even attempt to subvert them. Students are often stereotyped and labeled according to their tracks (Ball, 1981; Burgess, 1983; Cottle, 1974; Hargreaves, 1967; Keddie, 1971; Lacey, 1970; Metz, 1978; Page, 1984; Schwartz, 1981). Schwartz (1981) suggested that these stereotypes stemmed mainly from students' orientations toward school. Based on students' past accomplishments, teachers limited their descriptions of students' identities to a few words: "thick," "bright," "slow," "difficult," etc. Students also had labels for each other, labels which they might easily have applied to themselves. "Teacher's pet," "brain," "smart," "dumb" and "stupid" were common (Schwartz, 1981).

A. Teachers' perceptions

Teachers seem to contribute to the polarization process. Generally, teachers view high-track students positively and low students negatively (e.g., Finley, 1984; Rosenbaum, 1976). British ethnographers (Ball, 1981; Hargreaves, 1967; Lacey, 1970) noted that teachers were more positive toward the high-track students who had a pro-school attitude and embraced the school's goals. High-track students' pro-school behavior seemed more important than their academic accomplishments in shaping teachers' attitudes toward them. Ball (1981) concluded that the teachers' views of low-track pupils as inferior enlarged the differences between the tracks.

In a Catholic comprehensive school in England where prevailing norms stressed academic success, Burgess (1983, 1984) found that the Newsom Department--the department of low-track students not bound for the external exams--was the brunt of many teachers' negative jokes. Most of the school's teachers viewed the Newsom pupils as insolent "scruffs." However, the Newsom teachers

themselves viewed their students positively and attempted to bring them along according to the school's academic goals as much as possible. Similarly, Valli (1986) found students and teachers in three American Catholic schools speaking positively of their experiences in low-track programs, favoring the remedial instruction found there. These positive findings differ from the reports of most ethnographers. Are they a result of some sort of parochial-school ethos that supports academic instruction at all levels? More generally, the Catholic school findings show that it is important to be aware of possible variation in the social context of tracking both within and across schools.

Available survey data could be used to examine sector differences in the effects of tracking. Without focusing on this issue directly, several studies have revealed differences in the way tracking is used in public and Catholic schools (Goldberger & Cain, 1982; Hoffer, Greeley, & Coleman, 1985; Kilgore, 1983; Morgan, 1983). Catholic schools are more likely to enroll students in a college-preparatory curriculum, and they make greater academic demands of students, especially of students in noncollege programs (Hoffer, Greeley, & Coleman, 1985). These findings may mean that net track differences in achievement are smaller in Catholic schools.

B. Peer relations

Tracking is also said to affect and reflect students' relationships with one another. It appears to influence their friendship patterns: Several ethnographers have reported that most of a student's friends are found in the same track (Ball, 1981; Cottle, 1974; Hargreaves, 1967; Lacey, 1970; Rosenbaum, 1976; Schwartz, 1981). Students in the top streams tend to be the most popular. According to Schwartz (1981), the major criterion for choosing friends was the perception of other students' academic standing. Schwartz argued further that students in top tracks tended to form cohesive cliques while low-track students formed less dense pairs. Note, however, that even though tracking may influence within-school friendships, these friendships are not necessarily carried on outside the school (see Ball, 1981).

Peer relations also affect what goes on inside the classroom; these activities have been found to vary by track (Oakes, 1985; Schwartz, 1981). High-track students supported and helped each other in their classwork (Schwartz, 1981). Low-track students, on the other hand, made derogatory remarks toward those who made academic efforts and competed against others in the same track (Schwartz, 1981).

Ethnographers have noted that peer relations in tracked schools have a tendency to follow class and racial lines. Pro-school attitudes, high track positions, and middle-class backgrounds tend to coincide (Ball, 1981; Hargreaves, 1967). Oakes (1985) also found a disproportionate number of minority students in the lower tracks. Ogbu (1974) noted that among black students, the peer group influenced academic performance through the "neighborhood standard." Since the grade "C" was considered to be good

enough for the majority, few students aspired to anything higher. Students were thus pulled away from academic goals and possible success by their friends.

C. Implications

Once again the ethnographic literature brings a consistent message about the apparent effects of tracking: that it creates differences in students' attitudes and behavior that may be further linked to achievement and post-high school aspirations. Despite the consistency of the findings, however, ambiguity about the causal ordering of tracking and the polarization process makes definitive statements hazardous. There is clear evidence that students' attitudes vary between tracks, and that teacher-pupil relations and peer relationships are associated with variation in attitudes. But what evidence is there that tracking causes the polarization of student attitudes? Surely there is reason to believe that student attitudes differ prior to track placement: Hargreaves (1967), Schwartz (1981), Finley (1984) and others noted that teachers avoid teaching low tracks because of low-track students' negative attitudes toward school; and the labels applied to different track levels were established in elementary school, prior to secondary-school tracking (Schwartz, 1981). It seems likely that attitudes and motivation would be among the criteria of track assignment, so it is not surprising to find that they vary between tracks.

Two British ethnographers have argued that tracking is causally implicated in the polarization process. It seemed to Lacey (1970) that when students were introduced to tracking, attitudes between streams became increasingly hostile over time. Observing a comprehensive school that shifted from tracking to mixed-ability grouping, Ball (1981) found that hostilities had been greater in the tracking system. Yet American survey research that examined the link between tracking and attitudes with longitudinal data has yielded inconsistent results (Vanfossen, Jones, & Spade, 1987; Waitrowski et al., 1982).

Another difficulty is that the polarization of attitudes does not create an absolute, unwavering break between tracks. Positive and negative attitudes toward school have been found at all track levels. Observing students in the same stream, Hargreaves (1967), Lacey (1970), and Ball (1981) found a micro-social polarization process with some students being more oriented toward school than others. This finding led researchers to conclude that the polarization model may be too simplistic; Lacey himself first introduces it as "tentative." Other ethnographers have also warned against applying the pro- and anti-school dichotomy too readily (Hammersley & Turner, 1980; Measor, 1984).

Finally, the work of Willis (1977) and Everhart (1983) suggests that the development of pro- and anti-school attitudes may be more related to stratification in society than to stratification in schools. Studying working-class students in England, Willis found that anti-school "lads" (male students) involved themselves in resistance activities that resulted in the

"cross-valorization" of the work process: manual labor was seen as superior to mental labor. This attitude prevented the working-class youths from striving toward the academic goals of school. In a similar study set in California, Everhart described the two different forms of knowledge that were acquired by pro- and anti-school students. Pro-school pupils were interested in attaining knowledge that was valued in the wider society. Anti-school students obtained a more interpretive, contextually-based form of knowledge that depended on the group's norms for its substance. This "regenerative" knowledge was not derived from formal public knowledge nor recognized by the wider society. It was therefore in constant flux and was of little use for school success.

Powerful anti-school sentiment appears to develop among working-class youth who are alienated from school as a result of their social class, not necessarily their track positions. Because tracking and class are related (Oakes, 1985; Persell, 1977), what appears to be the outcome of tracking may actually be the result of conflict between the demands of the school as a middle-class institution and the attempts of working-class youth to resist them. Stinchcombe (1964) argued similarly that neither class nor tracking alone caused delinquency: Rebellion resulted when students' experiences in school did not match their anticipated futures outside school.

Once again we argue that these issues can be addressed by collecting longitudinal data from a variety of schools. Students' attitudes need to be measured both before and after their exposure to high school tracking. The attitudes examined should be those relating to schools; one reason for Waitrowski et al.'s (1982) lack of findings for track effects on self-esteem and delinquency may be that the latter variables are too general. (However, Waitrowski et al. also found no track effects on "attachment to school," a measure of students' commitment and positive or negative attitudes toward school.) At the same time, such an analysis would need to control for students' class backgrounds, in order to distinguish between the effects of tracking and the effects of social class.

The Institutional Context of Tracking

Tracking provides a setting not only for instruction and for social interaction, but also for variation in the kinds of expectations held by students, school staff, and society in general concerning the outcomes of schooling. Meyer (1977, 1980) has argued that certain categories in educational systems carry symbolic meanings that define expected outcomes for students. Curricular tracks may be viewed in this light, imbued with widely accepted symbolic values (Gamoran, 1986; Kerckhoff, 1986). Students in college tracks are intended to enter college, while other students are expected to enter the workplace directly after graduation. Because of the symbolic importance of track positions, students and others may hold these differential expectations regardless of students' actual academic performance or potential.

Despite available data on student expectations, these institutional effects have not been examined by survey researchers. Yet the strong and consistent effects of tracking on educational plans and attainment may reflect their importance. Although ethnographers have not directly confronted the issue either, some of their findings also provide support for the institutional argument.

Students are certainly aware of between-track differences in status. Both high- and low-track students view the top tracks as offering a better education and more prestige (Burgess, 1983, 1984; Measor, 1984; Rosenbaum, 1976). High-track students also receive more encouragement to continue their schooling (Hargreaves, 1967; Lacey, 1970). This finding complements Heyns' (1974) and Rehberg and Rosenthal's (1978) survey results showing that college-track students have more contact with guidance counselors regarding college attendance.

In contrast to the esteem in which high-track classes are held, little value is accorded low-track courses. Students who enroll in low-status courses may reduce their effort in school (Oakes, 1985; Ogbu, 1974). Metz (1978) found that because of restricted opportunities following graduation, low-track students felt no need to succeed in school. These students were well aware of their track position, but they did not understand what skills and requirements were necessary to be successful in even a modest occupation. This evidence does not demonstrate that tracking creates differences in students' attitudes and expectations corresponding to differences in the symbolic meanings of tracks. But it does show that tracks are associated with variation in institutionalized values as well as student expectations, and it is reasonable to hypothesize that the two are causally related. Longitudinal survey research could profitably examine such effects.

One problem with using existing survey data to seek institutional effects is that no study questioned students prior to placement in high school curricular programs. Thus, no controls are available for student expectations prior to tracking. This is especially problematic because institutional effects operate in an anticipatory fashion: Students anticipate low- or high-status futures on the basis of current status (Gamoran, 1986; Meyer, 1980). If students are affected by the institutional status of their tracks, the effects would occur as soon as they are assigned. Data collections that start at the secondary level would therefore lack the controls needed to study the effects of tracking on institutionalized expectations.

Note finally that the social and institutional effects of tracking cannot be separated completely from tracking's instructional effects, because instruction at varied track and ability levels is likely to depend on the social and institutional settings. How and what teachers teach is probably tied to their perceptions of students, the interaction between teachers and students in classrooms, and the status of different track levels. Thus, studies that examine any one of these contexts of tracking may need to consider all three.

CONCLUSIONS

The ethnographic literature on stratification in secondary schools provides some tentative answers to questions raised by survey research. These conclusions could profitably be tested with survey methods. As expected, one cannot say much about the causal effects of tracking on the basis of ethnographies. But clear and consistent between-track differences appear, and these differences may be linked to outcomes for students. If so, they serve as the mechanisms through which tracking influences attitudes, aspirations, achievement, and other outcomes.

Summarizing the ethnographic findings, we found patterns of instructional differences favoring high-track classes. We questioned the magnitude of those differences and argued that quantitative research is needed to display the impact of instructional variation, so that one could assess the importance of existing track differences in instruction. We also found that tracking appears to polarize students into pro- and anti-school factions. Polarization is said to occur as a result of interaction between teachers and students and among students themselves. A third phenomenon--the effects of tracking as a system of institutionalized categories--was not directly suggested by the ethnographic literature but found some support in our interpretation of the ethnographic findings.

We offer a number of tentative conclusions based on the combination of survey and ethnographic findings. First, the balance of the evidence suggests to us that grouping and tracking do affect achievement, despite the inconsistencies in survey analyses. Track differences appe[illegible]d in the nationally representative survey data for Britain and the U.S. (Gamoran, 1987; Kerckhoff, 1986; Vanfossen, Jones, & Spade, 1987). Because American survey research has not addressed the complex dimensions of grouping in secondary schools, the overall effects of within-school stratification may well be larger than they appear to be in American survey analyses. Finally, students and teachers consistently report that greater learning occurs in the high-status groups and tracks (Hargreaves, 1967; Metz, 1978; Oakes, 1985; Rosenbaum, 1976).

If achievement differences do exist, they probably result largely from variation in students' academic experiences. Survey analyses have shown that students in different curricular tracks enroll in different course sequences and report variation in instructional climates (Alexander & Cook, 1982; Gamoran, 1987; Vanfossen, Jones, & Spade, 1987). Ethnographers have provided more detailed information on instructional differentiation, describing differences in the sorts of knowledge available, the pace at which material is presented, and the way tasks are organized (Hargreaves, 1967; Keddie, 1971; Metz, 1978; Oakes, 1985). Moreover, teachers reputed to be more skilled and successful are more often located in high-track classes (Ball, 1981; Finley, 1984; Hargreaves, 1967; Lacey, 1971; Rosenbaum, 1976). This may produce a continuing cycle of low expectations, poor morale, and failure for both teachers and students in low tracks (Page, 1984). Still, whether these instructional differences are large

enough to cause persistent effects on student achievement remains an untested question.

The two research traditions concur that high-track students attain more schooling. Most of this effect appears to occur through tracking's influence on educational plans at the end of high school (Jencks & Brown, 1975; Rosenbaum, 1980b). How this process occurs constitutes the central question for this line of research. One possible mechanism is the differential allocation of knowledge. As Alexander & Cook (1982) noted, track differences in coursework steer some students toward college and others away. Within classes, teachers expose high track students to more of the knowledge required for college entrance exams (Ball, 1981; Burgess, 1983; Keddie, 1971; Oakes, 1985). Assessment of the statistical and substantive significance of these instructional differences awaits further research.

The polarization of student attitudes described by ethnographers may be a second cause of track differences in educational expectations. Consistent observational evidence shows between-track differences in relationships among students and between teachers and students (Ball, 1981; Hargreaves, 1967; Lacey, 1971; Metz, 1978; Oakes, 1985; Rosenbaum, 1976). At this point, we cannot be certain that tracking actually produces this social differentiation, let alone whether the polarization process accounts for track effects on college plans. However, survey results showing that peer plans and counselor encouragement serve as intervening variables (Alexander & Cook, 1982; Rehberg & Rosenthal, 1978) are consistent with the social differentiation hypothesis. Finally, track differences in plans may result in part from differences in the symbolic value of varied track levels, but this possibility has not been directly examined with empirical research in either literature.

Survey work is clearly needed to uncover the causal ordering of purported track effects. Observational claims of differences in peer relations must be studied quantitatively and over time. Similarly, the link between tracking and teaching needs to be considered with longitudinal quantitative data. In addition, survey research must assess the magnitude of track differences in instruction and social relations.

At the same time ethnographic research might be particularly helpful in clarifying the subjective meanings of students' track perceptions. At this point, we do not know what underlies students' responses to the survey questions. We do not even know if the question is meaningful in many schools. Ethnographic work is also needed for a more theoretically grounded view of instruction. What aspects of instruction are most likely to vary between tracks, what is most likely to influence achievement, and why?

Research combining qualitative and quantitative methods could address several of these problems simultaneously. Quantitative data collected with attention to the meaningful categories of stratification found at each school would have a greater chance of detecting effects that occur. This type of study would be

particularly well suited to examining what actually happens to students once they are assigned to stratified classes. How does the curriculum vary between tracks? What is the nature of classroom interaction at different track levels? Both questionnaires and classroom observation might be used to gather data on these critical issues. Furthermore, evidence on attitudes, expectations, and perceptions gathered with survey instruments could be enhanced through interviews and observation. While some researchers have done just that (e.g., Oakes, 1985), future studies need to examine these conditions prior to tracking as well as subsequently. Such evidence would make it possible to disentangle track effects from the influence of preexisting conditions. Clearly, knowledge about the operation and outcomes of stratification in schools will accumulate more rapidly as it draws upon diverse research traditions.

NOTES

[1] Survey researchers have also been concerned with discovering whether track assignment is based on meritocratic criteria (Alexander & McDill, 1976; Heyns, 1974). This aspect of their work is beyond the scope of the current review. We limit our focus to the consequences of stratification in schools.

[2] However, they were not always aware of tracking's implications for their subsequent educational careers.

[3] This was true for high schools as well as for middle schools.

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